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TransGrid Project Specification Consultation Report 25 June 2019, Reinforcing the New South Wales Southern Shared Network to increase transfer capacity to the state's demand centres

The National Parks Association of NSW (NPA) is pleased to make a submission on the above PSCR, particularly in respect to the Snowy 2.0 project.

Snowy 2.0 is not yet formally approved

The first of four assumptions underpinning the need for the PSCR is *"the committed expansion of generation and storage capacity in the Snowy Mountains ('Snowy 2.0')"*. The PSCR states that *"final approval for the proposed Snowy 2.0 generation development occurred in February 2019"*.

The statement that Snowy 2.0 received 'final approval' in February 2019 is incorrect. The events that occurred in February 2019 were the issue of a Notice of Decision for the Exploratory Works by the NSW Minister for Planning and the Commonwealth's announcement of approval for the project business case.

These announcements do not constitute 'final approval' for Snowy 2.0. Most importantly, the Environmental Impact Statements (EIS) for the Main Works and transmission lines have not yet been exhibited let alone approved by the NSW Minister for Planning. That Minister's office has assured NPA that these EISs will be subject to the most rigorous assessment and there should be no presumption that they will receive approval.

The correct statement of the current situation is that Snowy 2.0 has yet to receive all necessary approvals, notably those from the Commonwealth Government for the Main Works phase of the project and environmental approvals from the NSW Government under the *Environmental Planning and Assessment Act*.

What if Snowy 2.0 doesn't proceed?

All of the twelve options assessed in the PCSR assume that Snowy 2.0 will require 2000 MW of transmission capability to and from the grid. Given the serious uncertainties about the economic viability and environmental impacts of Snowy 2.0, NPA recommends that the PCSR should also model the transmission infrastructure, cost and timing options if that project does not proceed.

What capital contribution should Snowy Hydro make towards the transmission augmentations?

Snowy Hydro proposes to contribute to the 'shallow connection' from the pumped hydro station at Lob's Hole to the new switchyard at Maragle. Snowy Hydro proposes no contribution to the 'deep connection' to the grid, effectively all the infrastructure described in the PSCR.

All of the assessed options would be different if Snowy 2.0 does not proceed, requiring less capacity, different routes and different timeframes. Snowy Hydro should be required to make a capital contribution to cover this cost difference in accordance with user-pays and common equity principles.

NPA understands that it is a long-standing principle that whenever additional transmission or distribution is required to connect a new generator or load to the grid a capital contribution is applied commensurate with the relative use of the additional infrastructure compared to existing and potential customers. TransGrid's Pricing Methodology¹ Section 9.2, states:

"Consistent with clause 6A.28.2 of the Rules, where TransGrid is required to construct or acquire specific assets to provide prescribed connection services or prescribed shared network services to a transmission network user, TransGrid may require that user to make a capital contribution or prepayment for all or part of the cost of the new assets installed. The treatment of such capital contributions or prepayments will be in accordance with the relevant provisions of the Rules and the revenue determination."

The Maragle Switchyard and the two 500 kV lines to Bannaby are essential for Snowy 2.0. The prime driver for their construction and timing is clearly Snowy 2.0.

Snowy 2.0 will be the largest generator to be connected for 35 years and the largest load ever been connected to the grid. Snowy 2.0 obtains double the benefit of the grid extensions when compared to a stand-alone generator or a stand-alone load. It is not equitable for Snowy Hydro to only pay for 10km (1.5%) of the total 630 km of transmission lines of Option 3C.

Snowy 2.0 should pay the majority of the capital contributions for the associated grid extensions. Otherwise, all electricity consumers will be subsidising Snowy Hydro and the company will receive an unwarranted benefit compared to its NEM competitors.

Alternative projects to Snowy 2.0 may not require the same extent of augmentation to the grid

Before Snowy 2.0 is approved, alternative storage projects should be examined, most of which would not require the same extent of grid augmentation. Alternatives include:

- i) Pumped hydro projects within the existing Snowy Scheme and beyond. The "NSW Pumped Hydro Roadmap" states:
"The NSW Government has worked with the Australian National University (ANU) to uncover opportunities for pumped hydro across the State. This analysis found an incredible 20,000 reservoirs in the natural landscape that could be used as storages for pumped hydro energy. These could be paired-up in different ways to create 98,000 potential off-river pumped hydro sites—representing over 50 terawatts (TW) of firm generation capacity. In 2018, AEMO has projected that NSW will need investment in 9,000 MW of utility-scale energy storage by 2040, which is less than 1 per cent of the opportunities mapped".
- ii) Batteries. Large and small-scale battery banks have the advantage of being more efficient (90+% versus 70% for pumped hydro), can be installed in much smaller increments than 2000 MW, can be installed in a matter of months, have no risk of cost escalation, and can be located at load centres, thereby minimising the need for extra transmission circuits and losses. Also, there have been and will continue to be rapid reductions in cost.
- iii) Demand response enabled electrical appliances. Appliances such as water heaters, air-conditioners, electric vehicle chargers etc, can be turned off and on by aggregators, depending on the available generation (particularly solar and wind).

¹ "TransGrid Pricing Methodology 2018/19 – 2022/23". April 2018
<https://www.aer.gov.au/system/files/AER%20-%20TransGrid%202018%E2%80%9320-%20Transmission%20determination%20-%20Attachment%20B%20-%20Pricing%20Methodology%20-%20-%20April%202018.pdf>

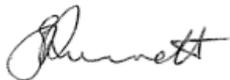
The latter two alternatives avoid Snowy 2.0's 30% cycling loss and 10% transmission losses while reducing the need for distribution upgrades. More than 60% of the price of electricity is for network costs and large, remotely located storage projects don't always make economic sense.

Finally, and most importantly, Snowy 2.0 will result in substantial, permanent damage to Kosciuszko National Park – reason of itself to comprehensively assess alternatives. Not all environmental impacts have been disclosed, but those revealed so far include:

- 8 million cubic metres of spoil, enough to cover a football field to a height of over 1.5 km.
- Clearing a 120 m-wide, 10 km-long swathe through Kosciuszko National Park for transmission towers and lines.
- Widening and upgrading 30 km of roads through sensitive alpine environments.
- Clearing 200 ha of native vegetation at Lob's Hole along a 6 km stretch of the Yarrangobilly River for an accommodation camp, construction site, rock dump, roads and wharf.
- Transporting the noxious species Redfin from Talbingo to Tantangara Reservoir and thence throughout the Snowy Scheme and its downstream rivers.
- Possible impacts on surface and underground water along the route of the 27 km tunnel.
- Far more frequent and rapid fluctuations in Talbingo and Tantangara Reservoirs, having a devastating impact on the flora, fauna and aquatic species, and also on recreational usage and amenity of Tantangara in particular.
- Surface works above the power station, including a large surge tank protruding above ground.

If you have any questions about these issues I can be contacted at garyd@npansw.org.au or on 02 9299 000.

Yours sincerely,



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National Parks Association of NSW
protecting nature through community action